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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,876	07/07/2004	Albert-Claude Boccara	0510-1101	1175

466 7590 11/21/2006

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER	
TURNER, SAMUEL A	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/500,876	BOCCARA ET AL.	
	Examiner	Art Unit	
	Samuel A. Turner	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

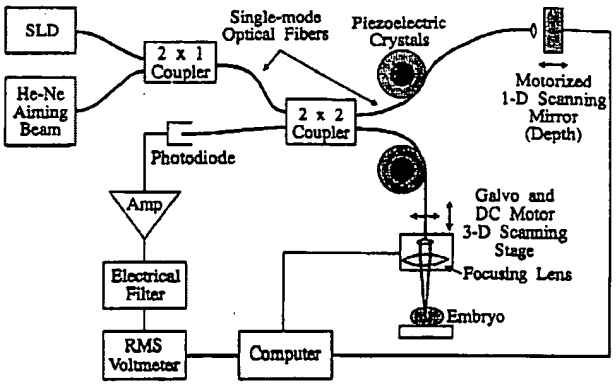
Claim Rejections - 35 USC § 103

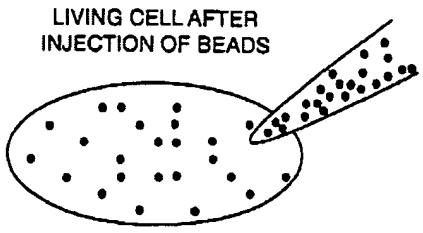
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medford et al(6,608,717) in view of Kopelman et al(6,379,955).





With regard to claim 1, Medford et al teach a method of microscopic visualization of a three-dimensional object, comprising:

visualizing the object through an interferometer(Fig. 1; column 10, lines 46-62).

As to claim 2, wherein the local probes are balls(column 3, lines 35-38).

As to claim 3, wherein the local probes are metallic(column 15, lines 51-53).

As to claim 4, wherein the interferometer is a Michelson interferometer(Fig. 1; column 7, line 23).

As to claim 7, wherein the interferometer includes a wide spectrum source(column 2, lines 56-61).

As to claim 8, wherein the source delivers short light pulses(column 2, lines 56-61).

As to claim 9, wherein optical means form the picture of a thin slice of the object on a matrix detector via the interferometer(column 8, lines 2-4).

With regard to claim 10. A Medford et al teach a device of microscopic visualization of a three-dimensional object comprising:

an interferometer(Fig. 1);

a wide spectrum source(Fig. 1; SLD);

a matrix sensor(Fig. 1; Photodiode);

means to form a picture of a thin slice of the object on the sensor via the interferometer(Fig. 1; Scanning Stage); and

a unit for processing the picture produced by the matrix sensor(Fig. 1; Computer).

Medford et al fail to teach a means or step for inserting local probes of nanometric dimensions in the sample object, the local probes numbering at least one hundred in a field observed and being animated by a movement.

Kopelman et al teach inserting local probes(Fig. 3; column 13, lines 12-15) of nanometric dimensions(column 13, lines 35-38) in the sample object and are animated by a movement(column 4, lines 18-24).

With regard to claims 1 and 10, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Medford method and apparatus by inserting local probes into the sample. The movement of applicants probes are accomplished through Brownian motion(spec. page 6, lines 11-12). Brownian motion is present in all gases, liquids, and solids. Therefor even without the probe steering found in Kopelman the probes would still be moved. The number of probes is dependent on the size of the sample and the number of substances detected(column 10, lines 60-67). Therefor it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the needed number of probes in the sample since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The motivation for these modifications is found in Kopelman wherein probes are inserted into a sample in order monitor substances and improve imaging. The number of probes used is based on the size of the sample and the number of substances detected and thus merely discovering an optimum value of a result effective variable.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medford et al(6,608,717) and Kopelman et al(6,379,955) as applied to claims 1-4, and 7-10 above, and further in view of Li et al(OSA, 2000).

Li et al teach wherein the Michelson, Linnik, and Mirau interferometers are equivalents in optical coherence tomography(column 1, lines 13-16).

As to claims 5 and 6, it would have been obvious to one of ordinary skill in the art at the time the invention was made substitute a Linnik or a Mirau interferometer for the Michelson interferometer of Medford.

The motivation for this modification is found in Li which teaches that these interferometers are art-recognized equivalents.

Response to Arguments

Applicant's arguments filed 5 September 2006 have been fully considered but they are not persuasive. Applicant argues that neither Medford et al or Kopelman et al teach that the local probes number at least one hundred in a field observed and

are animated by a movement. As discussed in the rejection above Kopelman teaches moving the probes, and that Brownian motion would also move the probes. Further, the number of probes is merely discovering an optimum value of a result effective and would have been obvious from Kopelman.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Turner whose phone number is 571-272-2432.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached on 571-272-2800 ext. 77.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Samuel A. Turner
Primary Examiner
Art Unit 2877